

PLANAR®

PLANAR LCD MONITOR PL160M MANUAL

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Important Safety Instructions

- Read the Safety Instructions carefully and keep it for later use.
- Be aware of all warnings and instruction signs marked on the products.
- When cleaning, turn off the electrical supply at all times. Never use liquid or aerosol detergent, use a damp rag instead. For more details, please refer to Pg. 4 “Cleaning the Monitor.”
- Always keep the product away from heavy moisture.
- Keep this product stable all times. The product may fall causing serious damage.
- Do not clog apertures on the bezels used for ventilation purpose. Do not install this product in poor ventilated areas. Always keep this product away from all kinds of heat sources.
- The power source used for this product must match one marked on the product's label. Please consult your dealer if you have any doubt.
- In order to avoid electric shock, a 3-wire plug with a grounding pin is provided. Do not use any kind of plug without grounding.
- Do not lay the power cord in a pathway or rest anything heavy on it.
- Do not insert objects or pour liquid into this product through apertures on bezels. It may touch a high voltage area causing an electric shock or short circuit.
- Do not attempt to repair the product by yourself. It may expose you to electric shock. Contact a dealer near you for service.
- Do not plug the power cord in under the following circumstances. A qualified field service electrician is needed.
 - When the power cord is damaged or frayed.
 - If liquid has been poured into the product.
 - If the product has been exposed to rain or heavy moisture.
 - If the product can't be adjusted and operated properly by following the operating instructions. Intent to do more advanced adjustments may result in extensive work for field service electrician.
 - If the product has been dropped or the casing is broken.
 - If there is a dramatic change of the performance.
- A proper type of power cord has been selected according to the safety of destination and must be used to prevent electric shock.

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Getting Started

Congratulations on your purchase of a TFT LCD Color Monitor. This section lists package contents, features, precautions, as well as cleaning and installation instructions.

Important! Please keep the original box and all packing material for future shipping needs.

Package Contents

Your TFT LCD Color Monitor package contents includes the following:

- TFT LCD Color Monitor
- VGA cable w/15-pin D-Sub connector
- Power Adaptor and power cord
- Audio cable
- User's Guide

Unique Features

- A High Resolution and High Contrast color TFT LCD providing more vivid images.
- Power management circuit conforming to VESA® DPMS™ standard that reduces the energy consumption when the LCD monitor is not in use.
- Equipped with DDC 2B™ for Plug & Play compatibility.
- Supports a true SXGA resolution of 1280 x 1024.
- Two 2 Watt audio speakers.
- Saves more than 2/3 of space (footprint) & energy (power).
- All plastic parts are recyclable.
- Approved for TCO'99, TCO95 (option).
- DC power "DC-IN" jack.
- Free run features. It will search the right frequency without interface.
- Composite Sync and Sync on Green compatibility.
- Five language OSD (On Screen Display).
- Out of sync and no signal indication.
- Image smoothing.
- Energy saving features.
- Analog video capabilities.

Precautions

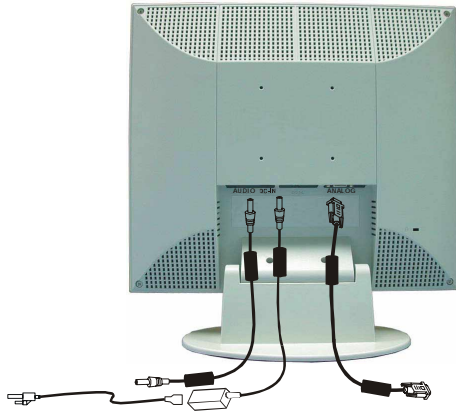
- Sit at least 18"(45 cm) away from the screen when in use.
- Do not press on the LCD panel as it is very fragile.
- Do not touch the LCD panel with your bare hands. Oil from your skin is difficult to remove and may damage the screen.
- Do not expose the LCD monitor directly under sunlight or other heat sources. When in use, the LCD screen should be facing away from light sources to reduce glare.
- It is important to choose a well-ventilated area to place your LCD monitor for adequate ventilation. Do not place anything on top of the LCD monitor.
- Ensure the area around the LCD monitor is clean and moisture-free.
- Do not place heavy objects on the power cord, adapter, or signal cables.
- If smoke, abnormal noise, or strange odor occurs, immediately turn the LCD monitor off and call your dealer. Do not continue using the LCD monitor.
- Do not remove the rear cover by yourself. The display unit contains high-voltage parts and may expose you to the electric shock. Contact your local dealer if service is needed.
- When moving, always handle your LCD monitor with care.
- Do not forcefully press down against the LCD display as this will damage the monitor.

Cleaning the TFT LCD Monitor

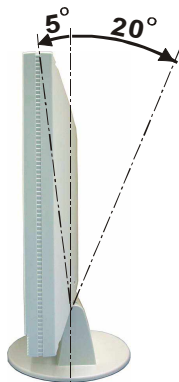
- Wipe the screen gently with a clean camel hairbrush, or a soft, clean, lint-free cloth. Removing the dust and other particles will prevent your LCD panel from being scratched.
- ***Never pour or spray any liquid onto the LCD monitor.***
- ***Do not apply pressure to the LCD panel.***

Quick Installation

1. Make sure the computer and the LCD monitor are both turned off.
2. Attach the female end of the power cord to the adapter, then plug the adapter connector to the power "DC-IN" Jack of the LCD monitor.
3. When using a power cord, plug the male end in a wall socket.
4. If using a PC power cord, plug the male end in the socket of the computer power supply (if equipped).
5. Plug one end of the video cable in the Analog video signal connector of LCD monitor, and then other end in video signal connector of the computer.
6. Plug one end of the audio cable into LCD monitor and the other end into your computer.
7. Turn on the computer.
8. Turn on the LCD monitor.
9. Adjust the user controls to optimize your personal preference (see Operation section, call your local dealer if you have any problems).



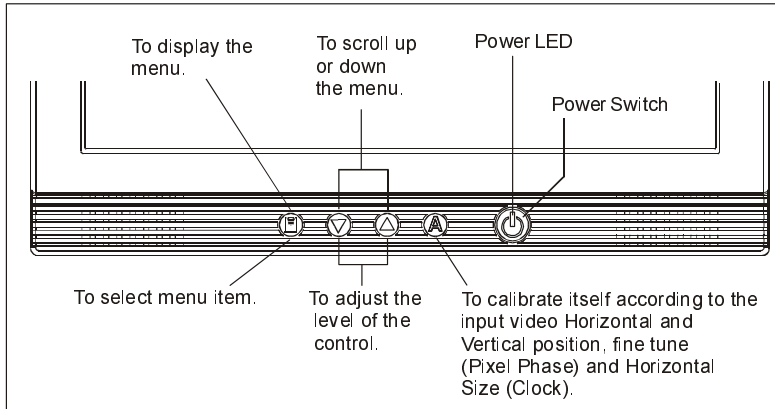
Adjusting the Monitor - Press down on the stand and gently adjust the monitor to a suitable viewing angle (see Figure below). Please note that this monitor can only be tilted forward to 5 degree and backward to 20 degrees. To prevent damage to the monitor, do not press the screen over its tolerant angles.



Operation

To turn the **TFT LCD Color Monitor On**, push the power button at the front right of the LCD monitor to active. When the power light turns green, the LCD is ready to use. To turn the LCD off, push the power switch button to de-activate the monitor.

▪ Front Control Panel



Hot Keys

[−] button: decrease volume.

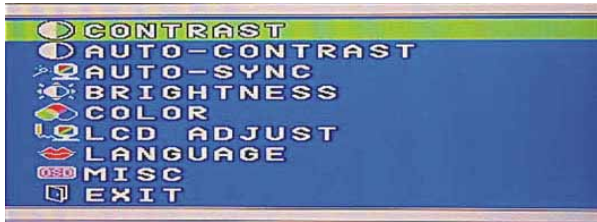
[+] button: increase volume.



[Auto] button: activates Auto-Sync.

OSD Main Menu

For screen adjustments, press the [Menu] button to display the OSD (On-Screen Display) Main Menu shown below. Press the [+] or [-] button to scroll up or down the menu to your required options. Please note: The OSD will automatically turn off in 15 seconds without any manipulation or by simply pressing the [Menu] button for 2 seconds.



CONTRAST Adjusts the contrast level of the screen image. Under Main Menu, select CONTRAST using the [+] or [-] button, then press [Menu] button to activate the function. Press the [+] button to increase contrast, [-] button to decrease contrast. Press [Menu] to return to Main Menu.



AUTO-CONTRAST Automatically adjusts contrast level of the screen image. Press [+] or [-] button to select AUTO CONTRAST, then press [Menu] button to activate AUTO CONTRAST.

AUTO-SYNC Automatically adjusts the image to the best performance. Press [+] or [-] button to select AUTO SYNC, then press [Menu] button to activate AUTO SYNC.

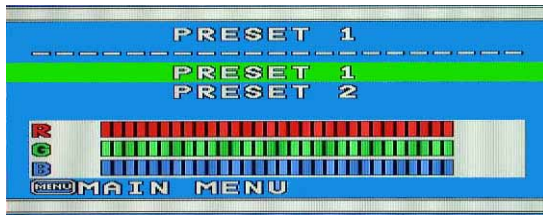
NOTE:

- **When setting up this monitor for the first time, perform AUTO-SYNC before use.**
- **To perform AUTO-SYNC, find a full and very bright screen image. It is better to perform AUTO-SYNC under WINDOWS.**


BRIGHTNESS Adjusts the brightness level of the screen image. Under the Main Menu, select BRIGHTNESS using [+] or [-] button, then press [Menu] button to activate the function. Press the [+] button to increase the brightness, [-] button to decrease the brightness. Press [Menu] to return to main menu.



COLOR Sub-Menu

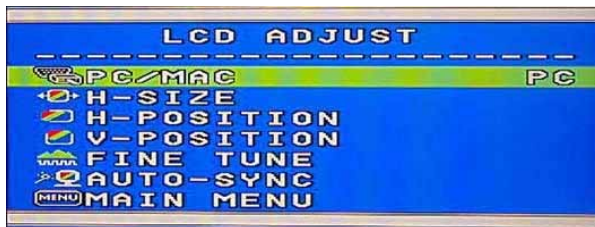



- Under the Main Menu, select COLOR using the [+] or [-] button, then press [Menu] button to activate the COLOR Sub-Menu shown as above.
- Under the COLOR Sub-Menu, press [+] or [-] button to scroll up or down to your desired preset color mode. Then press [Menu] to activate the mode.
- Or you may choose user's mode by adjusting R, G, B respectively. Press the [+] or [-] button select R or G or B bar, then press [Menu] to activate the adjustment. Press the [+] or [-] button to adjust the values, then press [Menu] button to save the value and return to color Sub-Menu to adjust another color. After adjusting R, G, B colors, press [Menu] to turn off the OSD menu or go to MAIN MENU to return to OSD Main Menu.


 **MAIN MENU** Returns to OSD main menu. Press [+] or [-] button to select MAIN MENU, then press [Menu] button to return to OSD Main Menu..

LCD ADJUST Sub-Menu


Under the Main Menu, select LCD ADJUST using the [+] or [-] button, then press [Menu] button to enter LCD ADJUST Sub-Menu.





 **PC/MAC** Switches between PC at 800X600 resolution and MAC at 832X624 resolution. Select PC/MAC, using [+] or [-] button. Then press [Menu] to initiate the switch between PC and MAC shown as above.


 **H SIZE** Adjusts the width of the screen image. Select H-SIZE, using [+] or [-] button, then press [Menu] button to activate the function. Press [+] button to increase the width of the screen image, press [-] button to decrease the width of the screen image. Press [Menu] to return to LCD ADJUST Sub-Menu.



 **H POSITION** Moves the screen image to the right or left. Select H-POSITION using the [+] or [-] button, then press the [Menu] button to activate the function. Press [+] button to move the screen to the right, [-] button to move to the left. Press [Menu] to return to LCD ADJUST Sub-Menu.


 **V POSITION** Moves the screen image up or down. Select V-POSITION using the [+] or [-] button, then press [Menu] to activate the function. Press [+] button to move the screen image up, [-] button to move down. Press [Menu] to return to LCD ADJUST Sub-Menu.

 **FINE TUNE** Adjusts the image performance. Select FINE TUNE using the [+] or [-] button, then press [Menu] button to activate the function. Press [+] or [-] button until the screen image looks crisp, sharp and focused. Press [Menu] to return to LCD ADJUST Sub-Menu after alignment.

 **AUTO-SYNC** Automatically adjusts the image to the best performance. Press [+] or [-] button to select AUTO SYNC, then press [Menu] button to activate AUTO SYNC.

NOTE:

- **When setting up this monitor for the first time, perform AUTO-SYNC before use.**
- **To perform AUTO-SYNC, find a full and very bright screen image. It is better to perform AUTO-SYNC under WINDOWS.**

 **LANGUAGE** Selects preferred language used in the OSD menus. Under Main Menu, scroll to Language using [+] or [-] button, then press [Menu] button to activate the function. Press [+] or [-] button to choose preferred Language, then press [Menu] button to save selection and exit OSD or go to MAIN MENU to return to OSD Main Menu.




* Language Sub-menu


OSD MISC Sub-Menu


Under the Main Menu, select MISC using the [+] or [-] button, then press [Menu] button to enter MISC Sub-Menu.





 **H OSD POSITION** Moves the OSD position on the screen to the right or left. Select H-OSD POSITION using [+] or [-] button, then press [Menu] button to activate the function. Press the [+] button to move the OSD position to the right, [-] button to move left. Then Press [Menu] to return to MISC Sub-Menu after adjustment.



 **V OSD POSITION** Moves the OSD position on the screen up or down. Select V-OSD POSITION using [+] or [-] button, then press [Menu] button to activate the function. Press the [+] button to move the OSD position up, [-] button to move down. Then Press [Menu] to return to MISC Sub-Menu after adjustment.


 **SMOOTHING** Makes the displayed texts smooth. Select SMOOTHING using [+] or [-] button, then press [Menu] button to activate the function. Press [+] or [-] button and adjust to your liking shown below. Press [Menu] button to return to MISC Sub-Menu.


 **INVISIBLE** Activates the OSD background to be invisible. Select INVISIBLE using the [+] or [-] button, then press [Menu] button to select either On or Off option. Press the [+] or [-] button to return to the MISC Sub-Menu.

 **INFORMATION** Displays the timing mode of signal input coming from the graphics card in the computer. Select INFORMATION using the [+] or [-] button, then press [Menu] to display the mode shown below. Then press [Menu] button to exit OSD or go to MISC to return to MISC Sub-Menu.



* Information Sub-Menu for Analog input.

 **RECALL** Returns the adjustments back to factory settings if the monitor is not operating at its original factory settings. Select RECALL using the [+] or [-] button, then press [Menu] button to reset the settings.

 **EXIT** Turns off the OSD. Select EXIT using the [+] or [-] button, then press [Menu] to exit the OSD.

Technical Data

Specifications

LCD	Size	16.0" (full 16.0" viewable diagonal area)
	Type	TFT (Thin Film Transistor), Active Matrix Panel
	Color	16.7M
	Glass surface	Anti-Glare & Hard Coat 2H
	Viewing Angle	160° (H) x 130° (V)
	Luminance	230 cd/m ²
	Contrast Ratio	300:1
Input Signal	Video	RGB Analog
Video Sync	Sync	H. V. Separate Sync, H.V. Composite Sync (TTL Compatible), Sync on Green, H.F.: 30-80kHz, V.F.: 55-75Hz, Video Bandwidth: 80MHz
Compatibility	PC	Up to 1280 x 1024
	Macintosh®	Power Macintosh® up to 1280 x 1024
Resolution	Primary Mode	VESA 1280 x 1024 @ 60Hz
Power	Voltage	AC100-240 VAC, 48-62Hz, 12VDC Adapter
Connector	Input Signal	15 pin D-sub
Display Area	Full screen	317.8mm (H) x 254.2mm (V)
Operating Conditions	Temperature	32 F to 104 F (0 °C to 40 °C)
	Humidity	10% to 90% (non-condensing)
	Altitude	to 10,000 feet
Storage Conditions	Temperature	-4 F to +140 F (-20 °C to +60 °C)
	Humidity	10% to 90% (non-condensing)
	Altitude	to 40,000 feet
Dimensions	Physical	375.0 mm (H) x 369.0 mm (W) x 158.0 mm (D) 14.76" (H) x 14.55" (W) x 6.22"(D)
	Package	482.0 mm (H) x 456.0 mm (W) x 228.0 mm (D) 18.98" (H) x 17.95" (W) x 8.98" (D)
Weight	PL160M	
	Net: 4.5kg (9.9 lbs)	Gross: 6.8 kg (14.98 lbs)
Regulations	Safety	UL, cUL, TUV/GS, CB Report
	EMI	FCC DoC, VCCI B, CISPR 22 B, BSMI
	Low Radiation	MPR 1990:10, TCO99, PR EN50279
	EMC	CE
	Energy Star Quality Environment	EPA, NUTEK SEMKO Power Down, Energy 2000 SEMKO Ergonomics, ISO 13406-2 TCO99, TCO95 (option)
Power saving	On	40W (green LED) (Max.)
	Off	3W (orange LED)
Audio	Amplifier	2W per speaker

- All products and trademarks are brand names of their respective companies.
- Specifications are subject to change without prior notice.

Factory Preset Timings

Timing	Horizontal Frequency (KHz)	Vertical Frequency (Hz)	Sync Polarity (H/V)
VGA 640 X 350	31.470	70.089	+ / -
VGA 720 X 400	31.467	70.082	- / +
VGA 640 X 400	31.469	70.087	- / +
VESA 640 X 480	31.469	59.940	- / -
VESA 640 X 480	37.861	72.809	- / -
VESA 640 X 480	37.500	75.000	- / -
VESA 640 X 480	35.000	66.667	Composite
VESA 800 X 600	35.156	56.250	+ / +
VESA 800 X 600	37.879	60.317	+ / +
VESA 800 X 600	48.077	72.188	+ / +
VESA 800 X 600	46.875	75.000	+ / +
VESA 832 X 624	49.715	74.535	Composite
VESA 1024 X 768	48.363	60.004	- / -
VESA 1024 X 768	56.476	70.069	- / -
VESA 1024 X 768	58.036	71.916	- / -
VESA 1024 X 768	60.023	75.029	+ / +
VESA 1024 X 768	60.241	74.927	Composite

Power Management System

This monitor matches VESA® DPMS™ (Display Power Management Standard) Standards. For the monitor's power saving features to work, the video board or computer must also match VESA DPMS standards. The Off state means the monitor is in the lowest DPMS state with the highest power savings.

Appendix

FCC Information

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help .

FCC Warning

To assure continued FCC compliance, the user must use the provided grounded power supply cord and the provided shielded video interface cable with bonded ferrite cores. Also, any unauthorized changes or modifications to this TFT LCD would void the user's authority to operate this device.

Power Cord Safety Precautions

Caution: Use a power cable that is properly grounded. Always use the AC cords listed below for each area:

USA.....	UL
Canada.....	CSA
Germany	VDE
Switzerland.....	SEV
Britain	BASEC/BS
Japan	Electric Appliance Control Act

Use an AC cord in other areas that meets local safety standards.

This device must be operated with the original power supply part number: LSE9901B1250(Mfd. by Li Shin), UP06031120A(Mfd. by Potrans).

Planar Systems, Inc

Customer Service

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